BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

In the Matter of	)	
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Amendment of the Commission's Part 90 Rules in the 904-909.75 and 919.75-928 MHz Bands	)	**WT Docket No. 06-49**
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To: The Commission

COMMENTS OF SOUTHERN COMPANY SERVICES, INC.

Southern Company Services, Inc. ("Southern") hereby submits its comments on the *Notice of Proposed Rulemaking* ("*NPRM*") issued in the above-captioned proceeding addressing proposed changes to multilateration location and monitoring service ("M-LMS") operations in the 904-928 MHz band. As explained herein, Southern relies on unlicensed Part 15 devices operating in this band to perform important utility functions, and the prevalence of Part 15 devices in this band counsels against any actions that would impair their continued use. Southern supports the FCC's statements regarding the importance of Part 15 uses and the preservation of the "safe harbor" for these operations. However, Southern is concerned that the "flexibility" proposed for M-LMS operations could disrupt the careful balancing of interests in this band and negatively impact unlicensed use. The FCC's action, therefore, should be carefully crafted to maintain this balance and preserve the usefulness of the band to both licensed and unlicensed devices.

I. INTRODUCTION

Southern Company Services, Inc. is a wholly-owned subsidiary service company of Southern Company, a super-regional energy company in the Southeast United States. Southern

Company also owns five electric utility subsidiaries -- Alabama Power Company, Georgia Power Company, Gulf Power Company, Mississippi Power Company, and Savannah Electric and Power Company -- which provide retail and wholesale electric service throughout a 120,000 square mile service territory in Georgia, most of Alabama and parts of Florida and Mississippi. Members of the Southern Company family hold a variety of FCC licenses used to support their utility operations. In addition to these licensed operations, Southern uses many devices that operate on an unlicensed basis in the 902-928 MHz band in conjunction with Southern's integrated communications and control systems. As such, Southern has a significant interest in this proceeding.

II. UNLICENSED USE OF THE 902-928 MHZ BAND IS CRUCIAL TO UTILITY OPERATIONS

A. Unlicensed Devices Serve An Important Role in Utility Efficiency, Reliability and Homeland Security Functions

The delivery of uninterrupted power to our Nation's homes and businesses is a national priority, and consumers and policy-makers are increasingly focusing on greater energy efficiency, better management of resources, and availability of consumer energy choices. For example, the Energy Policy Act of 2005 has recognized the importance of modernizing the Nation's electric grid to enhance reliability of service and to enable consumers to actively participate in managing their energy needs and expenses. Section 1252 of this Act requires utilities to implement time-of-use metering and communications no later than 18 months after the enactment of the law, which places the deadline in February 2007.[1] The Department of Energy has also recommended that states consider "aggressively implementing" time-based demand-response metering, with expected benefits including savings to customers, lower

[1] P.L. No. 109-58.

wholesale market prices, and avoidance of forced outages.[2] Modern utilities must be responsive to these issues, and use available technologies to facilitate these goals.

Utilities operate with these obligations in mind as they work to secure the physical integrity of their plants and maintain reliable electric service to their customers. Southern's communications networks are an important component of Southern's electric operations, as they are used to monitor the status of critical electric system components, analyze power consumption and power flows across the system, and provide for remote switching to even the load across the system. While Southern relies to the greatest possible extent on licensed spectrum for its critical operations, there are limitations on the availability of licensed spectrum for such uses. Southern prioritizes the use of its licensed spectrum for devices that monitor or control portions of the electric system that serve certain "critical" customers (*e.g.*, government installations, hospitals, and residents on respirators), while resorting to the use of unlicensed devices where licensed spectrum is unavailable or otherwise infeasible for a particular application. Such use is also in accordance with articulated FCC spectrum use goals encouraging efficient use of spectrum, including unlicensed devices that have become a ubiquitous and important part of everyday life.[3]

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[2] U.S. Department of Energy, Benefits of Demand Response in Electricity Markets and Recommendations for Achieving Them, A Report to the United States Congress Pursuant to Section 1252 of the Energy Policy Act of 2005, at v-vi, 26-29 (Feb. 2006).

[3] *See generally,* Spectrum Policy Task Force Report, ET Docket No. 02-135, at p. 54 (Nov. 2002) (noting the growth of unlicensed spectrum use and noting its utility for short range connectivity); Federal Communications Commission Spectrum Policy Task Force, *Report of the Unlicensed Devices and Experimental Licenses Working Group* (Nov. 15, 2002) (detailing the explosive growth and regulatory history of unlicensed devices); Kenneth R. Carter, Ahmed Lahjouji, Neal McNeil, *OSP Working Paper Series #39: Unlicensed and Unshackled – A Joint OSP-OET White Paper on Unlicensed Devices and Their Regulatory Issues* (May 2003) (detailing the economic and consumer benefits of unlicensed devices, as well as their increased use as effective "last mile" links and for telemetry purposes, among others).

Unlicensed wireless applications in the 902-928 MHz band are an important element of Southern's wireless communications network as well, as described below, and accordingly should be considered in any action addressing operations in this band.

a. Metering

Southern's electric operating companies use hand-held and fixed devices in the 902-928 MHz band to facilitate drive-by meter reading, commercial and industrial meter reading, and automated meter reading (AMR). These functions provide significant consumer benefits, and enhance Southern's ability to monitor its infrastructure. Recently, Southern announced that it plans to expand the deployment of fixed network AMR technology in selected areas of the Atlanta metropolitan area served by Georgia Power. The AMR deployment already gathers data hourly from 15,000 CENTRON® solid-state electric meters using Itron's Fixed Network technology, and Southern plans a 20,000 meter increase over the next few months, totaling 35,000 meters.

Wireless meter-reading provides significant benefit to Southern and its customers that goes beyond simply reading the meters for billing purposes. It also provides theft deterrent by allowing more accurate real time monitoring of energy use, facilitates time of use rates as required in the Energy Policy Act of 2005, enables Southern to remotely connect or disconnect customers without a truck roll, and aids automatic outage reporting and restoration thereby limiting outage time and lost customer productivity. Unlicensed operations in this segment of the 900 MHz band thus serve a valuable purpose that should be recognized and should continue to be fully supported by the FCC.

b. Distribution Automation

Part 15 devices in this band play an important role in Southern's distribution automation efforts, in that they operate as "last mile" solutions where a licensed multiple address system ("MAS") master cannot reliably communicate directly with a remote station located at an electric substation or with another network device.

Distribution automation allows a utility to more actively and accurately monitor and control its electric distribution system in order to better maintain voltages and power quality on the medium voltage distribution lines, similar to the systems that are in place to monitor and control high voltage transmission systems. Where the use of licensed spectrum is infeasible, Southern uses Part 15 equipment as a communications relay between the network device and the MAS remote, so that the effective range of the MAS system can be extended into difficult to reach areas. The Part 15 device can communicate with the substation or other device Southern needs to automate, or may be used for point-to-point and point-to-multipoint communications with other devices. In this respect, Part 15 devices serve as a valuable "last mile" link to other licensed elements of Southern's system, and are relied upon by both Southern and its electric consumers to support the more reliable operation of the electric distribution system. Interference to, or degradation of, this link should therefore be avoided in order to preserve the usefulness of these systems.

c. Distribution Efficiency

Georgia Power, one of Southern's operating companies, is also significantly invested in a distribution efficiency program that extensively utilizes Part 15 devices. This program allows Georgia Power to automate and remotely control devices on the distribution lines to adjust the current carrying characteristics of the line to account for seasonal shifts in power consumption

and other variables, and to improve the efficiency of its distribution system during peak demand periods. This plan permits power reduction through the installation of capacitors at strategic points on the distribution system, which provides a near-uniform voltage profile from the substation to the end of the line. The plan also allows for conservation voltage reduction (CVR), which reduces load during system peaks or other critical times.

This enables Georgia Power to be more responsive and active in controlling the line voltage through regulator switches, thereby improving overall efficiency and reliability. Unlicensed spectrum at 902-928 MHz is an integral part of this initiative, and significant use of this band would most certainly impact Georgia Power's ability to maintain this valuable program.

d. Intelligent Switching

Utilities, and Southern in particular, increasingly rely on intelligent switching to manage customer needs, and Part 15 devices are used in many intelligent switching deployments. Intelligent switching is primarily used to ensure that power interruptions are minimized at customer locations. A typical deployment would consist of intelligent remote terminal units ("RTUs") that are capable of operating line switches based on various scenarios. The intelligent RTUs communicate with each other via the Part 15 devices and work with licensed MAS remotes located at the intelligent RTU sites. The licensed radio communicates with a licensed MAS master that gives the appropriate control center status and analog power information as well as command functions. The control center is notified should there be an interruption at any or all of the intelligent RTU locations. This provides valuable information to Southern, and enables more efficient monitoring and troubleshooting to identify and minimize power disruptions.

B. The FCC Should Maintain a Spectrum Environment Conducive to Use of Part 15 Devices at 902-928 MHz

Part 15 devices have flourished in the 902-928 MHz band and are relied upon by the electric industry to monitor and manage the electric grid and to support reliable electric service. Altering the careful regulatory balance that was struck for this band by radically restructuring M-LMS service rules could curtail or eliminate valuable Part 15 uses through a proliferation of conflicting M-LMS devices. Even though these Part 15 devices operate on an unlicensed basis, they unquestionably provide a significant public benefit that should be preserved.

In this respect, Southern concurs with the FCC's statements in the *NPRM* which recognize the substantial public interests that have been served and the incentives for innovation that have been provided by the availability of spectrum at 902-928 for unlicensed use. Therefore, if the FCC opts to revise the M-LMS rules it should only act to the extent these public interests can be preserved. Southern will be particularly interested to hear the views of Part 15 device manufacturers as to the adequacy of the suggested technical changes to the M-LMS rules.

III. THE PROPOSED RULE CHANGES COULD ADVERSELY IMPACT PART 15 USE AND SHOULD NOT BE ADOPTED

A. The Safe Harbor Should Not Be Eliminated or Altered

Southern supports the *NPRM*'s tentative conclusion that the safe harbor for Part 15 devices should not be eliminated. Part 15 users and equipment manufacturers have relied on this provision in making manufacturing decisions and in deploying these devices in the field, and the safe harbor is essential to continued Part 15 operations in the band. A host of unlicensed devices operate in this band within the safe harbor parameters. Stripping these devices of that limited regulatory protection could result in widespread claims of "interference" to M-LMS, particularly if the additional flexibility for M-LMS licensees results in the expanded and more intense use of

the band. Rather, the best course, as the *NPRM* recognizes, is to preserve certainty for all users of this band by leaving intact the safe harbor for unlicensed use.

B. The FCC Should Not Allow Voice Communications or Real Time Interconnection with the PSTN

Southern is concerned that the flexibility proposed in the *NPRM* for M-LMS operations will not only result in more intense use of the band, but that M-LMS use will become so prolific as to eliminate effective use by Part 15 devices. While Southern recognizes the need to fully utilize spectrum, effective use of this band requires that the balance so carefully crafted in prior orders relating to this spectrum be maintained. To this end, Southern suggests that the restriction on M-LMS real time interconnection with the PSTN should be maintained.

In particular, permitting voice communications and real time interconnection will result in extended occupation of channels, increasing congestion and the likelihood of interference to other users. This was a concern that was noted by a number of commenters in response to Progeny's initial Petition for Rulemaking, and is an issue that would not be mitigated by reduced power levels or other technical constraints on M-LMS operations.[4] As the FCC noted previously, and which is still true, unfettered interconnection and messaging in the LMS band could increase the potential for harmful interference to other users in this segment of spectrum.[5]

C. M-LMS Operations Should Not Be Authorized to Use Spread Spectrum

There is a fine line between maximizing spectrum use and creating spectrum congestion. In considering changes to the technical rules for M-LMS, the FCC should remain cognizant of

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[4] *See, e.g.,* Comments of Ricochet Networks, Inc., RM-10403, at 9 (filed May 15, 2002); Comments of SchulmbergerSema Inc., RM-10403 at 5 (filed May 15, 2002); Comments of Itron, Inc., RM-10304, at 6 (filed May 15, 2002).

[5] Comments of Itron at 6, *citing* LMS First Report and Order, 10 FCC Rcd at 4737.

this line in light of the unique and long-established hierarchy of rights in the 902-928 MHz band. Even if the safe harbor is retained so that unlicensed devices may operate free from claims they are *causing* harmful interference to licensed devices, these same Part 15 devices still have no protection from any interference they might *receive*. Southern is concerned that permitting M-LMS operations to use spread spectrum could increase the probability of interference from such devices to Part 15 devices using spread spectrum.

It has been Southern's experience with Part 15 spread spectrum systems that many systems are installed and initialized with the same default hopping sequence programmed by the factory, leading to degraded service for systems operating in close proximity. If M-LMS users were added to the mix, and at the higher power level proposed by the NPRM, this could further increase the interference potential for Part 15 devices. If, however, M-LMS use continued on existing channels without frequency hopping, Part 15 devices may be modified to notch out these channels in order to more easily avoid interference incidents.

D. If Changes Are Adopted, the FCC Should Consider Other Changes to Accommodate Unlicensed Users

If the FCC decides to amend its M-LMS rules, the FCC should consider providing additional protection for Critical Infrastructure use of Part 15 devices. For example, the FCC could grant to Critical Infrastructure users of Part 15 devices a limited right to interference protection from M-LMS devices operating with parameters in excess of what has been permitted to-date; that is, M-LMS licensees electing to operate under the new rules would do so only on condition that they protect the unlicensed devices operated by Critical Infrastructure users.

In the alternative, or in addition to such measures, Southern encourages the FCC to clarify that licensed M-LMS spectrum in this band may be used for telemetry or SCADA operations, without the need to determine the "location" or status of "mobile units." As noted

above, utilities have limited options for critical telemetry and SCADA operations using licensed spectrum. Expanded availability of this spectrum for utility applications on a licensed basis would create additional interest for potential buyers of such spectrum or those that wish to purchase or lease spectrum on the secondary market. In any event, however, the necessary use of, and public benefit derived from, utility use of Part 15 devices in the 902-928 MHz band must be preserved.

IV. CONCLUSION

WHEREFORE, THE PREMISES CONSIDERED, Southern Company Services, Inc. respectfully requests that the Commission consider these comments and proceed in a manner consistent with the views expressed herein.

Respectfully submitted,

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